File No.: 348-26/27/2025-ADMIN **Date: 11/02/2026**

Sub: Expression of Interest (EOI) of Jaiv Urja Mitra Skill Development Programme.

Expression of Interest is hereby invited to empanel Training Centres (TCs) to impart training under **Jaiv Urja Mitra** Programme. The empanelment of TCs may be considered for one year or beyond, subject to the continuity of the programme.

Last date to submit the online application is 21/02/2026 up to 5:30PM.

The applications need to be submitted through email to **Jumpnibe@gmail.com**.

This has the approval of competent authority.

-Sd-
(DG, NIBE)

Invitation for Expression of Interest for empanelment of Training Centres for imparting training under "JAIV URJA MITRA SKILL DEVELOPMENT PROGRAMME"

Section 1: Background

1.1 Introduction

Sardar Swaran Singh National Institute of Bioenergy (SSS-NIBE) is an Autonomous Institute of Ministry of New and Renewable Energy (MNRE), Government of India (GoI) to facilitate Research & Development (R&D), Testing, Certification and Skill Development activities in the areas of bioenergy technologies in the Country.

Under the skill development initiatives of the MNRE, SSS-NIBE has been mandated as the nodal agency for implementation of Jaiv Urja Mitra Training Programme. SSS-NIBE is inviting Expression of Interest (EoI) for empanelment of Training Centres (TC's) for imparting training under Jaiv Urja Mitra Programme.

1.2 About Jaiv Urja Mitra Skill Development Programme

"JAIV URJA MITRA Programme (JUMP)" aims to develop the skills of youth, considering the opportunities for employment in the growing Bioenergy sector, either through power generation or through biofuel production. This programme is also designed to prepare the candidates to become new entrepreneurs/ Valued technical manpower in Bio Energy sector thus creating larger value chain. Under the programme, MNRE / SSS-NIBE will be rolling out the "JUMP" towards creating skilled workforce for the bio energy sector to have trained manpower for the development & operation of bio energy plants as per the industry demand/needs so as to achieve the Government of India targets and other future targets. In this first phase, biomass aggregation, depot operation and technicians for CBG and pellets sector are considered for roll out based on the discussion with the stakeholders. The proposed JAIV URJA MITRA Programme is designed in line with the National Skill Development Agency (NSDA) of the Ministry of Skill Development and Entrepreneurship, Government of India.

SSS-NIBE in consultation with various bio-energy sector stakeholders (SCGJ, MNRE, SNAs etc.) had identified four major areas/ job levels in the first phase, viz., Biomass Depot Operator, Agri-residue Aggregator, Technician operation and maintenance (compressed biogas) and Technician operation and maintenance (biomass pellets and briquettes).

The details of the programme are as under:

Table - 1 Details of the Training programmes under JUMP

Training programmes	**Duration hrs/days**	**No. of Trainees**	**No. of batches**	**Batch size**
Training of Participants				
Technician- O & M- Compressed Biogas)	420/74	360	12	30

Technician- O & M- Pellets & Briquette manufacturing	330/60	360	12	
Agri Residue Aggregator	330/60	60	2	30
Biomass Depo Operator	390/69	60	2	30
Total		840	28	
Training of Trainers (ToTs)	**11 days**	110	5	22
Total	**-**	**950**	**33**	-

This is a residential skill development program.

The applicable Jaiv Urja Mitra for the job role Biomass Depot Operator/Agri-Residue Agree gator/Technician: Operation and Maintenance Compressed Biogas/ Technician - Operations and Maintenance (Pellets & Briquette). The preferable qualification for participants is attached in Annexure-II. Special emphasis is to be given to the persons coming from rural backgrounds, **women**, unemployed youth, SC/ST category. The participants would be provided boarding and lodging facilities at or facilitated by the Training Centre (TC). The tentative list of Equipment that may be required and Curriculum for conducting training under Jaiv Urja Mitra is attached as **Annexure III.** SSS-NIBE reserves the right to modify/change/ update/amend/cancel the Expression of Interest (EoI) without specifying any reason. Any query related to this EoI can be sent to (**Jumpnibe@gmail.com**)**.**

1.3 Important Date

The applicant (TP) has to submit application in online mode only and the applications submitted through any other mode shall not be considered. The applications need to be submitted through email to **Jumpnibe@gmail.com**. The applicants need to fill the complete application form as available in Annexure I.

Note: Last date to submit the online application is 21/02/2026 up to 5:30PM

Section 2

2.1 Scope of work

SSS-NIBE invites response document to this Expression of Interest for the selection of TCs to impart training under Jaiv Urja Mitra Skill Development Programme for identified 17 states (Karnataka, Tamil Nadu, Andhra Pradesh, Weste Bengal, Chhattisgarh, Bihar, Odisha, Delhi, Telangana, Gujarat, Uttarakhand, Haryana, Punjab, Madhya Pradesh, Uttar Pradesh, Maharashtra and Rajasthan) against the program sanctioned by MNRE for FY2025-26. Empanelled TCs may also be considered beyond FY2025-26 subject to the program sanctioned by MNRE and also subject to the fulfilment of all qualifying conditions. As per present sanction all empanelled training centres to ensure completion of training within this FY 2025-26. However, this date may be extended subject to the receipt of sanction from MNRE for next FY.

2.2 Eligibility Criteria (All TCs must fulfil following criteria to consider for further evaluation as per technical scoring criteria given at para 2.3).

(i) Government /Private Institutes/ Universities/ Engineering/ Polytechnic/ ITI Colleges/ PMKK Centres/ Research Institutes/ Government Aided/ Autonomous bodies/Skill Development Centres/*Non-Profit Organisations* or NGOs*/Industries** (working exclusively in bioenergy sector particularly and CBG, Pellets and Briquettes, Biomass aggregation, Biomass Depo Operation) as Training Partners for Imparting JAIV URJA MITRA Programme.

(ii) TC must have training experiences in the broad renewable energy/ bio energy sectors.

(iii) The TC must have Faculty/Experienced manpower with proper knowledge of Bio Energy Programmes and training experience in overall renewable energy sector or should be able to tie-up with such organisations as mentioned in point (i) above. To support this, a CV with relevant documents for each faculty must be submitted. The same requirements are applicable to guest faculty, if any.

(iv) Industries/Associations should submit a letter of intent for placement of atleast 50% of the trainees they intend to train.

(v) TC must have or should be able to facilitate well equipped laboratory, classroom facilities and residential facilities as per para 2.5.

(vi) The institutes/TC will be chosen in the vicinity of existing Bio energy and potential biomass location. Institutes/TC should have proper Infrastructure or be able to facilitate to conduct training and to provide hostel to the participants. The institute will be selected based on multiple criteria, reputations, infrastructure etc.

(vii) The TC must mention the exact numbers of trainees to be trained under the applied category.

(viii) The TC should also mention the numbers of teachers to be trained at NIBE as ToT from their/collaborating institution.

(ix) The TC must provide all the required details along with supporting documents in the application form as given below:

*Note: *There is a requirement of partnership of Non-Profit Organisations or NGOs/Industries with institutes/other categories of organisations for conducting trainings of trainees in each category. This must be reflected in the application.*

Any fund release to NGOs/CSOs under this Programme, will be done after due verification of their unique IDs from NGO Darpan Portal and their sanctions having the following statements.

"The sanction is issued to (name of the grantee organization) which is a non-Governmental Organisation (NGO)/Civil Society Organisation (CSO)/Voluntary Organisation (VO) whose unique ID is (NGO Darpan ID of the grantee) as verified Ji-om NITI Aayog'.s- NGO Dmpan Portal."

2.3 Process of Shortlisting the TCs

(a) SSS-NIBE will form a **Technical Evaluation Committee (TEC)** duly approved by the competent authority to evaluate the response submitted by the TCs against this EoI.

(b) Meeting the eligibility criteria does not guarantee selection as TC.

(c) In case of large number of applications, TEC may adopt additional criteria for shortlisting of TC.

(d) **Final presentation will be taken by TEC of the shortlisted TCs.**

(e) For selection of TC the decision of competent authority will be final.

(f) Canvassing in any form and / or bringing any influence political or otherwise will be treated as a disqualification.

(g) All disputes and arbitration arising out of this shall be subject to the jurisdiction of Kapurthala District court only.

(h) The TEC will evaluate the responses submitted by the TCs as per following technical response scoring criteria.

Technical Scoring Criteria for shortlisting – maximum 100 marks

SARDAR SWARAN SINGH NATIONAL INSTITUTE OF BIO ENERGY			
" JAIV URJA MITRA" TRAINING PROGRAMME			
MARKING CRITERIA - 100 MARKS			
S. No.	**Evaluation Criteria / Weightage**	**Maximum marks**	**Proof / Documents required**
a	**Training Centre or Associated Institute/Organisation infrastructure facility**	20	
	Training Centre including classroom, labs etc.		Ownership document
	(i) Owned by the TC **(20 marks)**		
	(ii) Rented/Lease **(10 marks)**		Valid rental/ lease deed
b	**Hostel/Accommodation facility**	20	Geo-tagged image of hostel/Accommodation clearly showing the centre and hostel/ Accommodation
	(i) within the campus **(20 marks)**		
	(ii) outside the campus **(10 marks)**		
c	**No of qualified faculty/Trainer per centre**	20	CV with relevant documents
	(i) No of qualified faculty per centre if 2 nos **(20 Marks)**		
	(ii) No of qualified faculty per centre if 1 nos **(10 Marks)**		
d	**Total no of participants trained in Renewable/Bio Energy in last 3 years**	20	Centre-wise number of participants trained and placed certified by CA and self-declared by Head/Authorized Person of the Centre (Refer **Annexure-I**)
	(i) No. of Trained participants 201 and above **(20 Marks)**		
	(ii) No. of Trained participants between 151-200 **(16 Marks)**		
	(iii) No. of Trained participants between 101 to 150 **(12 Marks)**		
	(iv) No. of Trained participants between 50 to 100 **(8 Marks)**		
	(v) Up to 50 **(4 Marks)**		
e	Availability of basic bioenergy lab with related equipment **(Training Centre or Associated Institute/Organisation)**	20	Photographs (at least 2 photographs is required with details of the equipment) as mentioned in point no 6 of "2.5 Infrastructure"
	TOTAL	**100**	

Note: Technical Scoring Criteria shall be furnished by the TC in quantitative score also along with supporting documents. In absence of supporting document no marks will be awarded for respective criteria. As this is a pilot scale module, SSS-NIBE reserves full rights to select or cancel any organization based on requirements, jurisdiction and feasibility of implementation.

2.4 Financials and Payment terms:

The present funding breakup for Jaiv Urja Mitra are as per the sanction letter received from MNRE, however it may vary time to time as per notification received from MNRE. The details of course fee, assessment charges and boarding & lodging sanctioned per participant is as below:

Table - 2 Total Budget of the JUMSDP Programme		
Particulars	**Total Programme Cost (In Rs.)**	**To be funded by MNRE (In Rs.)**
Training of Participants (ToP) (840 no. candidates)		
Technician O&M CBG	1,94,41,800.00	1,94,41,800.00
Technician Pellet	1,55,41,200.00	1,55,41,200.00
Agri Residue Aggregator	23,79,600.00	23,79,600.00
Biomass Depo Operator	28,97,100.00	28,97,100.00
Total of (ToP) (A)	4,02,59,700.00	4,02,59,700.00
Training of Trainers (ToT) Programme (110 no.) (B)	40,62,320.00	38,59,204.00
Tota cost (C=A+B)	**4,43,22,020.00**	**4,41,18,904.00**

Table - 3 Budget for Training of Participants (ToP)- Operator/Technician O&M CBG •420 Hours (75 days) Per batch for Technician OEM CBG [420/8 ~ 53 days+ 10 weekends (20 days)+ travel time 2 days as prefix, suffix], 30 Nos. of Participants Per Batch		
Particulars	**12 batches, 360 participants**	
	Unit Price	**Amount Rs.**
Course Fee for Institution (including Awareness creation, handling the training, honorarium for faculties and overheads etc.	Rs.49/- per hour per participant	6,17,400.00
Lodging & Boarding cost*	Rs. 375/- per day per participant	8,43,750.00
Assessment & Certification Fee	800.00 per participant	24,000.00
Travel (Study Tour) to nearby biomass farms /industries	2500/- per participant	75,000.00
Honorarium for Industry experts for max. of 75 sessions (entire course)	Rs 800 per session	60,000.00
Total Cost per batch of 30 participants		**16,20,150.00**
Amount Per Participant		**54,005.00**
Total Amount		**1,94,41,800.00**

Table - 4: Budget for Training of Participants (ToP) – Technician Pellet 12 batches for Technician Pellet & Briquette. 360 Nos. of Participants Per Batch 330 hours for Aggregator (60 days) [330/8 ~ 42 days+ 8 weekends (16 days)+ travel time 2 days as prefix, suffix]		
Particulars	**Unit Price**	**Amount (Rs.)**
Course Fee for Institution (including awareness creation, handling the training, honorarium for faculties and overheads etc.)	Rs. 49/- per hour per participant	4,85,100.00
Lodging & Boarding cost*	Rs. 375/- per day per participant	6,75,000.00
Assessment & Certification Fee	Rs. 800 per participant	24,000.00
Travel (Study Tour) to nearby biomass farms/industries	Rs. 2,500/- per participant	75,000.00
Honorarium for Industry experts (max 45 sessions during entire course)	Rs. 800 per session	36,000.00
Total Cost per batch of 30 participants	-	**12,95,100.00**
Amount Per Participant	-	**43,170.00**
Total Amount (for 12 batches) with 360 participants	-	**1,55,41,200.00**

*as per the categories of states of MSDE notifications

Table -5 Budget for Training of Participants (ToP) - Agri Residue Aggregator •2 batches for Aggregator with 60 participants. 30 Nos. of Participants Per Batch •330 hours for Aggregator (60 days) [330/8 ~ 42 days+ 8 weekends (16 days)+ travel time 2 days as prefix, suffix]		
Particulars	**Unit Price**	**Amount (Rs.)**
Course Fee for Institution (including awareness creation, handling the training, honorarium for faculties and overheads etc.)	Rs. 42/- per hour per participant	4,15,800.00
Lodging & Boarding cost*	Rs. 375/- per day per participant	6,75,000.00
Assessment & Certification Fee	Rs. 600 per participant	18,000.00
Travel (Study Tour) to nearby biomass farms/industries	Rs. 2,500/- per participant	75,000.00
Total Cost per batch of 30 participants		**11,83,800.00**
Amount per Participant		**39,460.00**
Total Amount (for 2 batches) with 60 participants		**23,79,600.00**

*as per the categories of states of MSDE notifications

Table - 6 Budget for Training of Participants (ToP) - Biomass Depot Operator 2 batches for Biomass Operator with 60 participants. 30 Nos. of Participants Per Batch 390 Hours (69 days) Per batch for Biomass Operator [390/8 ~ 49 days + 9 weekends (18 days) + travel time 2 days as prefix, suffix]		
Particulars	**Unit Price**	**Amount Rs.**
Course Fee for Institution (including Awareness creation, handling the training, honorarium for faculties and overheads etc.)	Rs.49/- per hour per participant	5,73,300.00 (49*390*30)
Lodging & Boarding cost *	Rs.375/- per day per participant	7,76,250.00 (375*30*69)
Assessment & Certification Fee	800.00 per participant	24,000.00 (800*30)

Travel (Study Tour) to nearby biomass farms / industries	Rs. 2500/- per participant	75,000.00 (2500*30)
Total Cost per batch of 30 participants	**-**	**14,48,550.00**
Amount Per Participant	**-**	**48,285.00**
Total Amount (for 2 batches) with 60 participants	**-**	**28,97,100.00**

*as per the categories of states of MSDE notifications

Table - 7 Budget for Training of Trainers (ToT) Programme - 11 days [10 days program + travel time 1 day] 22 no. of trainers per course, Total targeted participants 220, 5 batches		
Particulars	22 no. of trainers per course, Total targeted participants 220, 5 batches	
	Unit Price	**Amount Rs.**
Lodging & Boarding for trainers	Rs 2000/day per participant	4,84,000.00 (2000*22*11)
Training Registration Kit	Rs 1200 per Kit	26,400.00 (1200*22)
Certification for trainers	Rs 1200 / participant	26,400.00 (1200*22)
Travel for 22 trainers and 10 faculties (industrial)	Rs 6000 per person	1,92,000.00 (6000*(22+10))
Accommodation for trainers (10 faculties)	Rs 2000 / faculty	20,000.00 (2000*10)
Honorarium for 10 faculties (max 20 sessions)	Rs 2000/session	40,000.00 (2000*20)
Cost per batch (1)		7,88,800.00
Overhead charges of institute (2)	3% of cost	23,664.00
Total cost (1+2) for one batch for 22 participants		8,12,464.00
Cost for total batches (5 batches)		**40,62,320.00**
Share of training institute (sent trainers for training) (5%)		2,03,116.00
MNRE share for all trainings (95%)		38,59,204.00
		For 110 trainers

2.4.1 Fund Flow Mechanism

Each program should have 30 participants. Any revision of fee structure shall be based on MNRE approval, which shall be communicated accordingly. The funds will be released as per common norms of MNRE. Advance (50%) if requested by the TC shall be released against Bank Guarantee (BG) i.e. 50% of the total value of the fund as per norm. TC has to submit the documents for each program such as: - Utilization Certificate (UC) in GFR 12A, statement of expenditure (SoE), attendance sheet, group photo, assessment & certification receipt, feedback forms, placement information, details of participants in the specified format (Aadhar number of participants is mandatory) and any other information required by SSS-

NIBE.

The schedule of release of payment will be based on MNRE sanction order. The funds should be released to the TCs as per the following schedule:

Installments	% of Installment of batch	Milestone
1st	50%	On Training Commencement.
2nd	50%	On completion of successful certification (Payment made for number of candidates certified after adjusting the advance payments)
No fund shall be released for dropout and failed participants		

2.5 Infrastructure

1. A Class room to accommodate 30 participants with basic teaching aids- white board, tables and chairs for adequate sitting arrangement with audio & video facility.
2. Laboratory with minimum 300 sqft area to carryout hands on activities to understand the various concepts related to Agri-residue Aggregation, Biomass Depot Operation, Technicians for Compressed Biogas and Pellets & Briquette production.
3. Hostel/Accommodation facility with well-ventilated rooms and proper bedding arrangement to accommodate 30 participants. Separate arrangements for boy and girl participants should be made at the hostel premises.
4. Provision for CCTV/Online monitoring of the training should be available in TC.
5. Canteen facility with daily breakfast, lunch, dinner with two times tea for the participants. The dining area and food should be hygienic. Weekly menu should be fixed which includes local food dishes and seasonal green vegetables.
6. Availability of internet connectivity at the centre, necessarily at IT/ computer laboratory.
7. The Institute should have basic biogas/ biomass/ pellet/briquette sampling/characterization facility.
8. The institute must have sufficient open space for conducting field work and experimentation.

2.6 General Information

(a) The documents with its supporting evidences should be properly uploaded on portal.

(b) The application with incomplete documents/ information will be out-rightly rejected and no correspondence for that will be entertained.

(c) **The Training Partners (TPs) who are applying for multiple Training centres (TCs) within a state/UT shall apply for one centre and also not more than 3 centres in total within the country.**

(d) SSS-NIBE will prepare a state-wise empanelled list of the training centres. If two or

more training centres get the same marks in evaluation, then the order of selection preference will be as follows:

- Government Institutes/Universities (Central/State/Deemed to be University/ Private University recognized by UGC)
- Engineering College (Central/State/Private College approved by AICTE) Polytechnic (both private and government approved by designated state authority)/ ITI College (both private and government approved by NCVT/SCVT) PMKK Centre
- Other affiliated Skill Development Centre affiliated from SCGJ/NSDC regarding Bio energy training in academic setup (as mentioned above) shall be considered only.

(e) The applicant has to deposit a non-refundable application fee of INR 5000/- (Five thousand rupees only) for submitting application for one centre in a state/UT.

- Bank Account Details:

  Account Number : 2945101004798
  Name : SARDAR SWARAN SINGH NATIONAL INSTITUTE
  IFSC : CNRB0002390
  Swift : CNRBINBBBFD
  MICR Code : 144015010

(f) The empanelled TC has to submit the yearly/quarterly action plan with starting dates of the batches and details of participants in advance in the following format:

S. No.	Duration	Name of Candidate	Father's Name & Mother's Name	Date of birth	Permanent Address, email.id, Mobile No.	Physically Handicapped if any	Category (Gen/SC /ST/OBC)	Aadhar No.	Mobile. No	No. of Days attended / Total no. of days of training)	Grade	Photograph

(g) TC has to provide Jaiv Urja Mitra Handbook/ study material to each participant from the course fee head of the project cost.

(h) Aadhar Enabled Bio-metric System (AEBAS) and IP based camera system (with audio recording) is to be used mandatorily at the training centre. The payment shall be released based on AEBAS attendance system or any other similar biometric attendance system in places where AEBAS is not applicable.

(i) All disputes and arbitration arising out of this shall be subject to the jurisdiction of Kapurthala District court only.

(j) The decision of the Competent Authority, SSS-NIBE shall be final in all matters relating to eligibility, acceptance or rejection of application, mode of selection and final award to

the TC.

(k) Special emphasis shall be given to the persons coming from rural background, unemployed youth, women, and SC/ST candidates from the regions which are in the vicinity of the existing bioenergy plant / biomass rich area. Reservations for SC, ST, NER as per GoI guidelines and 30% reservation for women under JSDP.

(l) Charges for special categories and allowances will be applicable as per MSDE guidelines on actual utilisation of funds in these categories. (MSDE notification July 2015 and January 2021)

2.7 Termination

The empanelment of the TC may be terminated at any point of time if any violation of norms is found during the implementation of the Jaiv Urja Mitra programs at its centres and accordingly performance bank guarantee shall not be returned.

Annexure-I

Application Form Part-A

A. Eligibility Conditions			
A.1		**Title of the Project**	Jaiv Urja Mitra Skill Development Program for FY 2025-26
A.2		**Name of TC**	
A3		**Associated institute/Organisation as training partner of TC, if any**	
A.4		**Name of the Authorized Person of TC with Designation**	
A.5		**Address of the registered office and contact details of the TC**	**Address:** **Phone:** **Email:** **Pin:** **State:** **District:**
A.6		**Address of the registered office and contact details of the Associated institute/Organisation as training partner of TC, if any**	**Address:** **Phone:** **Email:** **Pin:** **State:** **District:**
A.7		**Legal status of the TC**	*(Attach proof of Certificate of Incorporation from the competent Authority)* *(Attach Copies of, PAN GST registration etc.)*
A.8		**Address of the registered office and contact details of the Associated institute/Organisation as training partner of TC, if any**	*(Attach proof of Certificate of Incorporation from the competent Authority)* *(Attach Copies of, PAN GST registration etc.)*
		Annual Turnover	

S. No.	FY Year	Annual Turnover (in rupees)	Upload Audited Balance Sheets
1			
2			
3			
	Total		

A9. Detail of Training Centres and Associated Institute/Organisation as training partner of TC, if any ***(In a single PDF with the size less than 2MB)***

S.No	Name of TC	State	City	PIN	Full Address	Category of TC *	Ownership of infrastructure (Owned/Rent/Lease)	Attach proof
1								

A10. Details of infrastructure (Center Wise)

S.No	Center Name	No. of Classroom	No. of Labs	Upload File
1				

B. Hostel/Accommodation Details (TC or associated institute/organisation)	
Center Name	
Within Campus *	Yes
Upload Images * (In a single PDF with the size less than 2MB)	

C. Bioenergy Lab (Agri-residue Aggregation, Biomass Depot Operation, Compressed Biogas and Pellets & Briquette production)	
Infrastructure & Equipment	
Center Name	
Upload Images * (In a single PDF with the size less than 2MB)	* Photographs (at least 2 photographs is required with details of the equipment)
Upload List * (In a single PDF with the size less than 2MB)	* Upload the list of Tools and Equipment available with the training center as per Annexure III of EOI

D. Total candidate trained in Bio energy sector, if any (Agri-residue Aggregation, Biomass Depot Operation, Compressed Biogas and Pellets & Briquette production) in the last 3 years *(In a single PDF with the size less than 2MB)*				
S.No	**Center Name**	**Financial Year**	**Candidates Trained in Bio Energy sectors**	**Attachment (Certificate Signed by CA)**

E. Trainers with relevant qualification and Experience

Sr. No	Name of the TC	Name of Trainer	Qualification (B.E./B.Tech. or Diploma (Electrical/Electronics/Civil/ Mechanical) with 2years of relevant experience)	Institution	Total Experience as trainer in renewable /bio energy	Provide the CV	Upload relevant Documents ToT certificate, Degree, Experience Letter
1							
2							

Self-Declaration

I, …… (Name of the Authorized Person), ……. (Designation of the Authorized Person) ---------- (Name and address of Training Centre), do hereby declare that the information provided herein in the online application form is true and correct to the best of my knowledge and belief and nothing has been falsely stated or concealed therein. I understand that if the said information as given in the application form is found false, at any stage the empanelment of the centre will be liable to be rejected.

Date: Signature

(Name of the Authorized Person)
Stamp

Annexure II

GENERAL INFORMATION FOR THE QUALIFICATION PACK

1. Technician - Operations and Maintenance (Compressed Biogas)

(i) Brief Job Description: The individual at work is responsible for supporting effective and efficient operation and maintenance of a CBG plant by troubleshooting, repairing and ensuring maximum up-time of the plant.

(ii) Personal Attributes: This job requires the individual to concentrate on the job at hand and complete it meticulously in a safe manner. He/She must possess energy and strength for physical work. He/She must also demonstrate strong work ethics and an ability to communicate courteously with workers and customers.

Course Duration/Training Hours	**74 days / 420 hours**
Trainee Qualification	**Minimum 12th Pass**
Minimum Age	**18 years**

May refer to the Hydrocarbon Sector Skill Council training Qualification Pack Qualification Code: ***HYC/4401 (***https://www.hsscindia.in/uploads/2024/03/Compressed-Biogas-Plant-Operator.pdf***)*** *for tentative relevant information on module content and details.*

For more details please visit: https://nibe.res.in/

2. Technician - Operations and Maintenance (Pellets & Briquette)

(i) Brief Job Description: The individual at work is responsible for supporting effective and efficient operation and maintenance of a Briquette and Pellet manufacturing plant by troubleshooting, repairing and ensuring maximum up-time of the plant.

(ii) Personal Attributes: This job requires the individual to concentrate on the job at hand and complete it meticulously in a safe manner. He/She must possess energy and strength for physical work. He/She must also demonstrate strong work ethics and an ability to communicate courteously with workers and customers.

Course Duration/Training Hours	**60 days / 330 hours**
Trainee Qualification	**Minimum 10th Pass**
Minimum Age	**16 years**

May refer to the Skill Council for Green Jobs training Qualification Code: SGJ/Q4201 for tentative relevant information on module content and details.

For more details please visit: https://nibe.res.in/

3. Biomass Depot Operator

Course Duration/Training Hours	**69 days / 390 hours**
Trainee Qualification	**Minimum 10th Pass**
Minimum Age	**18 years**
Trainer Qualification	**12th Pass + Minimum 2 years of relevant experience**

May refer to the Skill Council for Green Jobs training Qualification Code **SGJ/Q6207** (https://www.nqr.gov.in/qualifications/3648) *for tentative relevant information on module content and details.*

For more details please visit: https://nibe.res.in/

4. Agri-residue Aggregator SGJ/Q6201

Course Duration/Training Hours	**60 days / 330 hours**
Trainee Qualification	**Minimum 5th Pass**
Minimum Age	**18 years**
Trainer Qualification	**10th Pass + Minimum 2 years of relevant experience**

May refer to the Skill Council for Green Jobs training Qualification Code **SGJ/Q6201** (https://www.nqr.gov.in/qualifications/3642) *for tentative relevant information on module content and details.*

For more details please visit: https://nibe.res.in/

Annexure III

Tentative Module content for the Job role trainings

Technician O&M – CBG

May also refer to the Hydrocarbon Sector Skill Council training Qualification Pack QP Code: HYC/4401 for module content and details

MODULE 1: Introduction to Bio-CNG Sector

- Orientation & training overview
- Overview of Bio-CNG industry in India (SATAT/BAM, GOBARdhan, MNRE-NBP)
- Understanding biomass-to-biogas-to-CBG pathway
- Climate benefits, waste management, bio-manure
- Overview of CBG plant components: Feedstock, Pre-processing, Digesters, Upgradation, CBG compression & storage, Digestate
- Roles & responsibilities of technicians
- Basic scientific concepts: pH, temperature, Pressure, OLR, HRT, TS/VS, C/N Ratio
- Gas laws, gas composition basics
- Module assessment and review

MODULE 2: Feedstock, Biomass Logistics & Pre-Processing

- Types of feedstocks
- Agri residues, Pressmud, Livestock manure, MSW, Napier, etc.
- Feedstock quality parameters: TS, VS, C:N ratio, pH, contaminants
- Feedstock assessment & sampling techniques
- Biomass collection, transportation & storage
- Pre-processing systems, Shredders, mixers, slurry tanks
- Hands-on: Shredder operation, Mixing preparation, Slurry uniformity testing
- Feeding systems: Solid feeding, Liquid slurry feeding, Screw/pump-based feeding
- Preventive maintenance for pre-processing equipment
- Practical exercises on receiving, storing, shredding, feeding
- Module assessment and review

MODULE 3: Anaerobic Digestion, Fermentation & Process Control

- Types of digesters (CSTR, plug-flow, fixed dome, etc.)
- Hydraulic retention time (HRT) & organic loading rate (OLR)
- Anaerobic digestion stages: Hydrolysis, Acidogenesis, Acetogenesis, Methanogenesis
- Process parameters monitoring: Temperature, pH, alkalinity, VFA, FOS/TAC ratio
- Troubleshooting
- Foam, scum, sedimentation issues
- Digester heating systems: Hot water loop, Heat exchangers
- Pumps and agitators, mixers
- Operations & routine maintenance
- Practical: Digester monitoring & data recording
- Slurry handling & bio-fertilizer systems
- Solid Liquid Separators: Drying, Centrifuge
- Hands-on sessions: Digester sampling, pH & alkalinity tests, Mixing speed adjustments
- Module assessment and review

MODULE 4: Gas Upgradation, Compression & Storage

- Raw biogas composition

- Gas upgradation technologies Water scrubbing, Chemical scrubbing, PSA/vPSA, Membrane separation
- CO_2, H_2S, moisture removal systems
- Hands-on: PSA system
- Gas analysers & online gas monitoring systems
- Compression systems (CNG compressors)
- Cascade systems
- CBG cylinder handling & safety
- Storage pressure limits, temperature effects
- Gas dispensing & bottling operations
- Troubleshooting
- Module assessment and review

MODULE 5: Mechanical/Electrical Systems & Instrumentation

- Basics of mechanical systems
- Valves, pipelines, flanges
- Pumps, blowers & compressors - operation & servicing
- Electrical panels, MCC, VFD basics
- Sensors & instrumentation: Pressure gauges, Flow meters, Temperature sensors, Level sensors
- Calibration of instruments
- SCADA, PLC basics (overview for technicians)
- Preventive maintenance schedules for all equipment
- Hands-on: Valve operations, Motor control, Cable connections
- Emergency mechanical/electrical troubleshooting
- Module assessment and review

MODULE 6: Safety, Fire Protection & Quality Control

- Plant hazards & risk identification
- Gas leakage detection & response
- Fire safety systems: Hydrants, Fire extinguishers, Foam systems,
- PPE usage
- CBG quality standards
- SOP development & compliance, O&M logs, Daily checklists
- Emergency response drills
- Module assessment and review

MODULE 7: Digital Tools, Documentation & Plant Management

- MIS, log sheets & performance tracking
- Daily production reporting formats, Inventory & spares management
- Cost of operations basics (energy, chemicals, manpower)
- Basic financial literacy
- Documentation for statutory compliance
- Safety permits
- Calibration certificates
- Module assessment and review

MODULE 8: Field Training, Assessment & Certification

- Full plant operational cycle practical
- Final Written/skill assessment
- Certification, feedback and closing

Technician O&M – Pellets and Briquettes

May also refer to the Skill Council for Green Jobs training Qualification Pack QP Code: SGJ/Q4201 for module content and details.

MODULE 1: Introduction to Biomass & Pellet/Briquette Industry

- Course overview
- Roles & responsibilities of O&M technicians
- Importance of biomass
- Applications in industries (boilers, gasifiers, thermal power)
- Types: Biomass briquettes – piston press, screw press, Agro pellets – ring die, flat die
- Product standards and Fuel-grade biomass specifications
- Different biomass and torrefied biomass pelletisation techniques
- MNRE bioenergy policies
- Module assessment and review

MODULE 2: Raw Materials, Pre-processing & Quality Control

- Biomass feedstocks and binders
- Feedstock characteristics: Moisture, Particle size, Bulk density, Ash content, Calorific value
- Raw material preparation: Shredding, Grinding, Sieving (screening)
- Drying systems: Rotary dryers, Flash dryers
- Hands-on training: Operation of shredder, grinder, dryer, Moisture testing
- Module assessment and review

MODULE 3: Machinery Operation – Pellets & Briquettes

- Plant workflow overview: Material flow: Raw, Grinding, Drying, Pressing, Cooling, Screening, Packing
- Briquetting Press: Piston press operation, Screw press operation, Die, ram, sleeve, screw - functions & wear
- Pellet Mill (Ring Die / Flat Die): Ring die, rollers, Feeding systems, Pellet cutting knives Lubrication & heat control
- Pellet & briquette cooling systems: Counterflow coolers, Air blowers, Moisture normalization
- Screening & fines recovery: Vibratory screens, Cyclones
- Hands-on operation: Running pellet mill & briquette press, Start-up–shut-down procedures, Adjusting die-roller pressure
- Troubleshooting production: Low production, High fines, Die choking, Overheating
- Packaging systems
- Module assessment and review

MODULE 4: Mechanical, Electrical & Instrumentation O&M

- Basics of mechanical systems
- Bearings, belts, pulleys, gearboxes
- Pellet mill/briquette press mechanical maintenance: Die & roller inspection, Press lubrication, Alignment checks
- Preventive maintenance schedule: Daily/weekly/monthly checks
- Breakdown vs preventive maintenance
- Electrical systems: Motors - types, ratings, Star-delta starters, VFD operation
- Electrical panel operations, MCB, MCCB, relays, Overload trips & precautions

- Instrumentation: Temperature sensors, Moisture meters, Pressure gauges, Vibration monitoring
- Hands-on: Motor connection basics, Replacing belts, bearings, knives
- Pneumatic systems: Compressors, Air lines, Applications in pellet/briquette plants
- Hydraulic systems, Hydraulic oil, cylinders (piston press),
- Troubleshooting: Motor overheating, Belt slippage, Vibration & noise problems
- Module assessment and review

MODULE 5: Safety, Fire Control & Quality Assurance

- Plant safety essentials: PPE, Machine guarding, Lockout
- Fire hazards in biomass plants: Dust explosion risks, Hot spots prevention, Dryer fire safety
- Fire prevention systems: Extinguishers, Hydrants, Spark detectors, Cyclone fire suppression
- Dust management: Cyclone separators, Dust collectors, Housekeeping
- Pellet & briquette quality testing: Durability index, Density, Ash content, Calorific value
- BIS Standards
- Hands-on quality lab: Tests (moisture, ash, density, GCV)
- Emergency response: Fire drill, Evacuation plan
- Module assessment and review

MODULE 6: Digital Tools, Documentation & Plant Operations

- Log sheets & MIS: Daily production logs, Machine running hours, Maintenance logs
- Inventory management, Raw material, Finished goods, Spare parts
- Calculations: Energy consumption, O&M cost basics
- SCADA / PLC basics: Monitoring parameters, Alarms, Data trends
- Moisture sensors
- Weighbridge systems
- Documentation & compliance: Safety records, Calibration certificates
- Module assessment and review

MODULE 7: Field Training, Evaluation & Certification

- Full plant operation practice: Grinding, Drying, Pressing, Cooling, Sizing, Packaging, Troubleshooting live issues
- Final Written/skill assessment
- Certification, feedback and closing
- Maintain production logs & digital records
- Troubleshoot operational and equipment problems

Agri-Residue Aggregator

May also refer to the Skill Council for Green Jobs training Qualification Code SGJ/Q6201 for module content and details.

MODULE 1: INTRODUCTION AND BASICS CONTENTS

- Renewable Energy: An Introduction
- Biomass and Bioenergy: An Introduction

MODULE 2: Introduction to Biomass Aggregation

- Orientation, objectives, industry overview
- Role of residue aggregators in bioenergy supply chains
- Case studies: Biomass power plants, CBG plants, briquetting units
- Importance of agri-residue management
- Open burning impacts, pollution, soil health concerns
- National initiatives (MNRE, SATAT, NBM, Panchamrit Targets)
- Residue value chain mapping
- Stakeholders: farmers, CHCs, FPOs, aggregators, processors
- Introduction to basic field data collection
- Forms, residue mapping, landholding assessment

MODULE 3: Agri-Residue Types & Assessment

- Types of residues: paddy straw, wheat straw, sugarcane trash, cotton stalk, mustard stalk, corn cobs, etc.
- Physical & chemical characteristics
- Residue generation estimation techniques
- Yield-based assessment
- On-ground survey methods
- Seasonality and availability calendar creation
- Contaminants, moisture limits, foreign matter
- Practical: Field visit for residue assessment
- Interaction with farmers
- Economics of residue collection and Cost components
- Training on residue sampling & documentation
- Module assessment and review

MODULE 4: Collection, Handling, Storage & Logistics

- Harvesting and residue availability post-harvest
- Window of collection and scheduling
- Collection methods: manual, semi-mechanised, mechanised
- Baling system introduction: Balers, Rakers, Loader, Cutter-shredder etc.
- Storage yard planning and layout
- Moisture control, stacking methods, ventilation
- Transportation planning
- Tractor-trolleys, trucks, rope tricks for loading
- Cost optimisation in logistics
- Route planning, bulk movement strategies
- Safety aspects (fire, moisture, rotting)
- Practical: Hands-on storage and transportation exercise
- Module assessment and review

MODULE 5: Machinery, Tools & Safety

- Overview of all biomass collection machinery
- Renting vs owning machinery

- Maintenance of balers, rakes, cutters
- Routine checks and troubleshooting
- Lubricants, spare parts inventory
- Safety training including Fire hazards, PPE, First Aid
- Machine handling
- Demonstration by machine operator
- Equipment breakdown and repair steps
- Training on weighing equipment, moisture meters
- Practical sessions on machinery operation
- Module assessment and review

MODULE 6: Business Management & Entrepreneurship

- Basics of entrepreneurship
- Opportunities in biomass aggregation
- Business model development
- FPO-based aggregation vs. individual entrepreneurship
- Financial planning, Profitability analysis
- CAPEX, OPEX, Break-even point, cost–benefit ratio
- Market linkages
- Selling to briquetting, pellet, biomass power, CBG, ethanol plants
- Government schemes & support: MNRE, MoPNG SATAT, AIF, FPO schemes
- Contracting & agreements
- Negotiations & pricing strategies
- Soft skills: communication, farmer relations, leadership
- Field visit to an operational biomass supply chain unit
- Module assessment and review

MODULE 7: Field Practice, Evaluation & Certification

- Field Exercise
- Final Written/skill assessment
- Certification, feedback and closing

Biomass Depot Operator

May also refer to the Skill Council for Green Jobs training Qualification Pack QP Code: SGJ/Q6207 for module content and details.

MODULE 1: Introduction to Biomass Sector

- Orientation & course overview
- Role of biomass depots in the bioenergy value chain
- Introduction to biomass-based industries: Briquettes & pellets, CBG, Bioethanol, Biomass power plants/Cogeneration
- Understanding biomass supply chain
- Stakeholders: farmers, aggregators, depots, transporters, industries
- Environmental impacts of residue burning
- National policies & programs (MNRE, SATAT, 2G ethanol, NBM)
- Basic terminology & units- tonnage, moisture %, bulk density, GCV, Ash
- Module assessment and review

MODULE 2: Biomass Types, Characteristics & Quality

- Types of agricultural residues: Paddy straw, wheat straw, cane trash, cotton stalk, corn cobs etc.
- Wood biomass, industrial biomass, saw dust, forest residues
- Physical & chemical properties: Moisture, Calorific value, Ash content
- Biomass quality parameters required by different industries
- Sampling methods & guidelines
- Hands-on: Moisture testing (moisture meters), Bulk density measurement, size & contaminants check
- Module assessment and review

MODULE 3: Depot Layout, Infrastructure & Operations

- Biomass depot types
- Simple stack yard
- Covered shed and Advancements in depots
- Depot planning, Site selection,
- Layout, flow of material
- Flooring, drainage, weighing area, unloading zone design
- Biomass receiving process
- Weighbridge
- Visual inspection and Quality sampling
- Manual & mechanised unloading techniques
- Stockpile management, layering, rotation
- Load safety
- Yard housekeeping standards
- Tools & materials for depot operations
- Tarpaulin, loaders, forklifts, rakes, belts
- Daily operational checklists & SOPs
- Module assessment and review

MODULE 4: Machinery & Equipment Handling

- Introduction to common biomass depot machinery
- Loaders, Grinders/shredders, Screeners, Conveyors
- Machinery working principles

- Tractors & hydraulic trailers - operation basics
- Hands-on: Loader operation & stack formation
- Conveyor belts - feeding, safety systems, alignment basics
- Shredders - feed size, blade maintenance, output control
- Preventive maintenance schedule for machinery
- Electrical safety & control panel basics
- Troubleshooting common equipment faults
- Hands-on: Mechanised depot workflow practice
- Module assessment and review

MODULE 5: Storage, Drying & Fire Safety

- Storage principles for biomass
- Height limits, Ventilation, Moisture reduction techniques, Natural drying
- Shade vs open storage
- Rain protection techniques
- Tarpaulin management
- Drainage systems
- Pest & rodent control in biomass yards
- Fire risk in biomass depots - causes & prevention, Fire safety plan, Fire lines
- Water points and Sand pits
- Firefighting equipment training: Extinguishers, Hydrants, Water hoses
- Emergency response & evacuation procedure
- Fire drill (practical)
- Safety gear (PPE), hazard identification, first aid
- Module assessment and review

MODULE 6: Logistics, Supply Chain & Documentation

- Understanding biomass supply chain flow
- Transport vehicle types, loading methods
- Route planning & logistics cost optimisation
- Storage-dispatch coordination with industries
- Record keeping: Goods inward/outward register, Daily stock register, Vehicle logs
- Weighbridge operations - gross, tare, net calculations
- Documentation sample formats: QC report, Dispatch note
- Module assessment and review

MODULE 7: Digital Tools, MIS & Compliance

- Stock management, Moisture records, Vehicle tracking
- Excel basics – data entry, stock tracking, reports
- MIS reporting formats
- Daily, weekly, monthly reports
- Basic financial literacy, Billing, Payment records, GST basics
- Regulatory compliance, Labour laws, Fire NOC, Pollution norms
- Module assessment and review

MODULE 8: Field Training, Evaluation & Certification

- Hands-on full depot operation: Receiving, Testing, Storing, Shredding, Dispatch
- Field visit to a commercial biomass depot or biomass-based industry
- Final Written/skill assessment
- Certification, feedback and closing

Annexure IV

List of Tools & Equipment Mandatory for trainees:

Characterization Equipment for Solid Biofuels

S. No.	Characterization Technique	Equipment
1.	Proximate Analysis	Muffle Furnace
		Hot Air Oven
		Weighing Balance
		Desiccator
		Moisture Analyzer
2.	Ultimate Analysis	CHNS Analyzer (Optional)
		Micro Balance (Optional)
3.	Calorific Value	Bomb Calorimeter
		Weighing Balance
4.	Mechanical Durability of Pellets	Pellet tester (Optional)
		Weighing Balance
5.	Fines Content in pellets	Sieve Shaker
6.	Bulk Density of Pellets	Measuring Cylinder
7.	Length and Diameter of Pellets	Vernier calliper
8.	Hardgrove Grindability Index of Coal	Hardgrove grindability machine (Optional)

Instrument required for biogas production and characterization

S. No.	**Instrument/Sensors**	**Measurement Accuracy**
1.	Gas Analyzer/GC (Optional)	±0.5%
2.	Thermocouple	±0.5°C
3.	pH Sensor	±0.1pH (25 °C)
4.	Pressure Sensor	±0.5%
5.	High-Performance Liquid Chromatography (HPLC)	Optional
6.	Proximate Analyzer for biomass characterization	As per BIS standards
7.	Ultimate Analyzer for biomass characterization	As per BIS standards